

Kindly add the following new claims:

--19. (New) A method for producing a luciferase which is substantially free of adenylate kinase, the process comprising culturing a host cell which is able to express said luciferase and which is able to express adenylate kinase only in a mutant form which form has adenylate kinase activity under culture conditions but loses said activity under conditions of pH or temperature at which the luciferase remains unaffected; and recovering the luciferase, wherein either the host cell culture or the recovered luciferase is subjected for a sufficient period of time to conditions of pH or temperature under which the adenylate kinase is denatured but the luciferase remains unaffected.

20. (New) A method according to claim 19 wherein the host cells are cultured for a period which is sufficient to allow production of luciferase, and then a batch of said culture is subjected to said conditions of pH or temperature under which the adenylate kinase is denatured , and the luciferase is recovered.

21. (New) A method according to claim 19 wherein the conditions at which the adenylate kinase is denatured and the luciferase remains unaffected are temperature conditions.

22. (New) A method according to claim 21 wherein the temperature conditions are elevated temperatures of 37°C or more.

23. (New) A method according to claim 19 wherein the conditions at which the adenylate kinase is denatured and the luciferase remains unaffected are pH conditions.

24. (New) A method according to claim 22 wherein the adenylate kinase includes mutations at amino acids 87 or 107 in the sequence of the *E. coli* adenylate kinase.

25. (New) A recombinant cell which comprises a first nucleotide sequence which encodes a luciferase protein under the control of regulatory elements which allow expression of said luciferase protein, and wherein a gene which encodes adenylate kinase is mutated such that the adenylate kinase expressed is denatured under pH or temperature conditions at which the luciferase remains unaffected.

26. (New) A recombinant cell according to claim 25 which further comprises at least one selection marker.

27. (New) A recombinant cell according claim 25 which comprises a prokaryotic cell.

28. (New) A recombinant cell according to claim 27 which comprises a recombinant *E. coli* cell

29. (New) A method for producing a recombinant cell according to claim 25 which method comprises in any order (a) transforming a host cell with a vector which encodes said adenylate kinase in a form which is denatured under given conditions, subjecting transformants to said conditions and detecting those in which adenylate kinase is denatured, and (b) transforming said host cell with a vector which encodes a luciferase which retains luciferase activity under said conditions and a first selection marker, and detecting transformation with said first selection marker.

30. (New) A method according to claim 29 wherein the vector which encodes said adenylate kinase in a form which is denatured under given conditions further comprises a selection marker which is different to said first selection marker, and selecting said transformants with said second marker.